article in the New England Journal of Medicine in 1981.

Again, let me repeat that those articles are admitted not for the truth asserted in those articles, but just for the fact that information was either known or available to the defendant.

You may call your next witness.

MS. DESCHAMPS-BRALY: The plaintiff would call Doctor Kent Westbrook.

KENT WESTBROOK, M.D.,

called as a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. DESCHAMPS-BRALY:

Q. Doctor Westbrook, would you be kind enough to introduce yourself for the Court and the jury, please.

A. I'm Kent C. Westbrook.

Q. Where do you live, sir?

A. I live in [DELETED]

Q. What is your profession?

A. I'm a surgical oncologist, which means I am a surgeon with special training in the management of cancer by surgery.

Q. Now, Doctor Westbrook, I know that you have told me that you don't want to brag, but we need to explain to the jury what your qualifications are to be testifying here today, so let me take you back a few years and ask you where you went to college.

A. I went to the University of Arkansas in Fayetteville, Arkansas.

Q. And where did you get your medical training?

A. The University of Arkansas Medical School in Little Rock, Arkansas.

Q. And your internship?

A. At the same institution. And then I did a surgery residency in that same facility.

Q. Where have you been practicing since that time?

A. Upon completion of my residency I went to the M.D. Anderson Cancer Hospital and Tumor Institute in Houston, Texas, which is one of the major cancer centers in the country. I spent a year there as a fellow and second year as what is called a faculty associate, which is a junior staff position. I stayed on another month or two after that to complete a study. Then I returned to the medical school at the University of Arkansas where I have been since 1972, I guess that would be.

Q. Are you board certified, sir?

A. I'm board certified in general surgery.

Q. Now, would you be kind enough to tell us about some of the professional associations that you belong to.

A. Well, at the present time, the ones that are really pertinent here, I am a member of the Society of Surgical Oncology. That's a group of surgeons that treat cancer by surgery.

I am a member of the Society of Head and Neck Surgery, which are surgeons that have special training and skill in the treatment of head and neck cancers.

I am a member of the American Society for Clinical Oncology, which is an investigative society that's made up of specialists, surgeons, medical therapists, et cetera, that are all interested in cancer.

Q. Doctor Westbrook, I have a textbook in my hand entitled "Textbook of Radiology" by Gilbert H. Fletcher, the third edition. Are you familiar with that?

A. I think that is "Textbook of Radiotherapy," isn't it?

Q. I'm sorry. "Radiotherapy," that's correct.

A. This is "Textbook of Radiotherapy." Radiotherapy is the treatment of cancer with x-ray therapy. Over the years I have been involved in many areas other than just surgery.

For example, during medical school I worked in the pathology department for three years,. When I was at M. D. Anderson, I came to know Doctor Fletcher, who was chief of radiation therapy, and Doctor Jesse, who was chief of head and neck, very well.

Doctor Fletcher asked me to review a chapter that he was writing for that book, and I, just being very young, just tore the chapter to pieces and gave it back to him.

He said, "Well, if it's that bad, just rewrite it." So I rewrote it. So there is one chapter in that that I wrote.

After I did that, he said, "Well, here's another one to work on," so there are two chapters in that book that I basically put together with Doctor Fletcher and Doctor Jesse.

Q. May I ask you, sir, if you consider this book to be authoritative?

A. Yes, that's an authoritative book on radiotherapy.

Q. Thank you.

Doctor Westbrook, I have another book here entitled "Cancer of the Head and Neck" -- now, I don't know whether I can get this name out quite right or not -- by James Y. Suen?

A. Suen, that's correct.

Q. And Eugene N. Meyers?

A. That's correct.

Q. Are you acquainted with this textbook?

A. Yes. That textbook, Doctor Suen is an associate of mine. Doctor Suen works at Arkansas with me.

After I came back from M.D. Anderson and had trained in head and neck surgery, I wanted to establish a head and neck cancer service at the University of Arkansas. Doctor Son is an ENT surgeon. He was the first ENT surgeon that ever got to train at M.D. Anderson. There has always been rivalry between general surgeons and ENT surgeons on who should operate on the head and neck, and Anderson was run by a group of general surgeons.

But Doctor Suen went down and trained in head and neck surgery at M. D. Anderson. I then recruited him back to Arkansas, and he and I together have been working in the head and neck field for many

years.

One of my roles there now is that I am the director of the Arkansas Cancer Research Center, which means that basically I'm in charge of education, research and patient care for the entire University of Arkansas Medical School. Doctor Suen now is in charge of our head and neck program, and he with Doctor Meyers put that book together several years ago, and as far as I'm concerned, it is the standard textbook for head and neck cancer today.

Q. Doctor Westbrook, are you acquainted with any of the authors that have made contributions to this book?

A. Well, if you look at the list of authors, it reads like a Who's Who in head and neck surgery in the country today. I think the first chapter was written bay Doctor Richard Jesse, who was chief of head and neck surgery at M. D. Anderson when I trained there and when Doctor Suen trained there. He has since died of cirrhosis of the liver that he got from hepatitis while he was operating.

In addition, Doctor Elliott Strong, who's chief of the head and neck service at Memorial Hospital in New York, wrote a chapter in the book. I have a chapter in the book; Doctor Suen has a chapter

or two in the book. So it is made up of chapters from people all over the country, but it is considered to be the standard book in head and neck surgery today.

Q. I gather that means you do find it to be authoritative.

A. Yes, ma'am.

Q. Doctor Westbrook, have you been published in the literature other than the chapters that we have just been discussing?

A. I do not have my CV here in front of me. I have written approximately 50 articles for the general literature. I have written, I think, five chapters on head and neck cancer, some of which I have already mentioned, some of which are in other textbooks. I have made 15 or 20 movies, videotapes, et cetera, that have been shown at various meetings, some of which deal with head and neck, some of which deal with other types of cancer.

Q. All right, sir. Let's move on to your practice. During your years as a surgical oncologist, have you had occasion to see patients suffering from head and neck cancer?

A. Yes. As I said, Doctor Son and I established the first real head and neck cancer

program in Arkansas. In fact, we obtained national funding of $300,000 a year to develop what was called a head and neck cancer demonstration project, and we developed a very big head and neck service with a rehabilitation service in Little Rock.

So I have treated head and neck cancer patients ever since my residency. I don't treat as many today as I did a few years ago because of the administrative duties that I have today.

Q. Now, sir, during this period of time can you give us any idea of how many head and neck cancer patients you have seen?

A. Well, I would say that I have personally treated probably 700, 800 or a thousand patients. Now, if you counted patients that I saw when I was working with other people, it would run up into the thousands, but I think that I have personally managed just under a thousand patients.

Q. Can you give me any idea of how many of those patients suffering from head and neck cancer were nontobacco users?

A. Oh, maybe, out of the total number -- now, when we say "head and neck cancer," I am going to exclude the skin and just limit it to the cancer of the mouth and the throat. In that group of patients

I would say that 95 to 98 percent are tobacco users in one form or another.

Q. Doctor Westbrook, have you ever done any independent research regarding the use of snuff in oral cancer?

A. I have not done any laboratory research where you work with animals, but by being located in Arkansas, we started seeing a very large number of people that had what appeared to us to be very typical lesions. In fact, if you go back through the charts for 20 years, at most cancer institutions you see an array of snuff dipper's carcinoma or snuff dipper's cancer.

As a result of seeing several of these patients, we became interested in trying to establish whether we thought there really was a relationship between snuff and oral cancer of a particular type and also what the features of that particular type of cancer were.

So, yes, we did a study in which we took a group of women that had a particular type of cancer. They had cancer that was located either on their upper gum, their cheek or their lower gum. Now, the reason we selected that is because from our past experience just in dealing with patients, those were

the ones that we were convinced were snuff -- were related to dipping snuff.

MS. DESCHAMPS-BRALY: Your Honor, may I approach the witness?

THE COURT: (Nodding yes).

Q. (BY MS. DESCHAMPS-BRALY) Doctor Westbrook, let me hand you what has been marked as Plaintiff's Exhibit 25. Would you please tell us what that is.

A. That's a copy of the paper that resulted from our work and from our presentation.

Q. Would you please explain to us some of the methods and what you did in order to carry out this study.

A. We took a 20-year period from 1955 through 1975, I think it was, and we identified every patient that was seen in our hospital, every female patient that had cancer either of the upper gum, the cheek or the lower gum.

And then we -- there were 55 patients in that group. And then we matched those with patients of the same sex, obviously, which were just only females of the same race and of the same age, and we had the people in medical records simply take -- when patients come into our hospital, they are assigned a number, so the number just keeps

getting higher and higher.

So we took the next patient in sequence that met those criteria, that is, same age, same sex, same race, and we used them as our control group. That was the best we could do for a control group.

We then looked at the two groups of patients with regard to the factors that are felt to be important in the development of head and neck cancer -- tobacco, alcohol, the way dentures fit, whether or not they had teeth in poor condition. And in this group, obviously, it became very obvious that snuff was a causative factor in these patients. 50 of the 55 women were chronic users of snuff; whereas, in our control group there was only one patient that was a chronic user of snuff to our knowledge.

Now, this was done from medical records, and there could be a little error in it, but still there would not be an error of the magnitude of the difference in 50 users versus one user.

Q. Doctor, would you read the name of the study that you have in front of you, please.

A. "Snuff Dipper's Carcinoma: Fact or Fiction."

Q. And the year of that study?

A. It was published in 1980. It was presented

in 1976 at an international conference on cancer.

Q. And, sir, do you adopt the statements in that study as your statement here in court today?

A. Yes, ma'am.

MS. DESCHAMPS-BRALY: Your Honor, I would move the admission of this study into evidence.

THE COURT: Any objection?

MR. JENNINGS: No objection, Your Honor.

THE COURT: Plaintiff's 25 -- is it 25 --

THE WITNESS: Yes, sir.

THE COURT: -- will be admitted.

Q. (BY MS. DESCHAMPS-BRALY) Doctor Westbrook, as we are starting out right now, could you explain the difference? We have been referring since this case started to what is known as squamous cell carcinoma. There is another type called verrucous carcinoma. Could you explain the difference between those two types of cancers, please.

A. Well, let me use -- may I use the board, sir?

THE COURT: (Nodding yes).

Q. (BY MS. DESCHAMPS-BRALY) Do you need a marker?

A. There is some kind of marker. If you would have a heavy black marker, I would rather have it.

(Handed to the witness).

A. The lining of the oral cavity is what's called squamous epithelium, and that means if you look at it under the microscope and this is the top, there are a lot of cells with the kind of shape something like this.

Now, when something goes wrong and cancer develops from those cells, then it is called a squamous cell carcinoma. So these are squamous cells, and when they develop with cancer, it is called squamous cell carcinoma. Verrucal carcinoma is a variant of squamous cell carcinoma.

Squamous cell carcinoma can look almost like the normal cells, or it can look very wild. And verrucal carcinoma is a variant in which these cells become real heaped up, and if you look at the lesion grossly, it is quiet and warty and if you look at it under the microscope, it may actually look like it is not invading, because under that layer of cells is a membrane under the microscope that is called the basement membrane.

And frequently what is called a verrucal carcinoma will just kind of grow on top of that membrane. But it's another type of squamous cell carcinoma. Then other squamous cell carcinomas can.

be classified based on how nearly they look like normal cells.

You can even say that they are well-differentiated, in which case they look normal. You can say they are poorly differentiated, in which case they look abnormal. Or you can say they are undifferentiated, in which case you can just barely tell that they are squamous cells. So basically that's what squamous cell carcinoma is.

Q. Doctor Westbrook, could you explain what happens when these squamous cell carcinomas start to invade.

A. Let's just take a fairly typical squamous cell carcinoma. All of the oral cavity is lined with squamous cells. 99 percent of the cancers that occur in the mouth occur from these cells, so they are called squamous cell carcinoma.

Regardless of the type of cancer it is, if enough time goes by, it breaks through that basement membrane, and then in addition it starts to destroy normal cells and it can either become heaped up or if the cells start dying off, instead of coming across and heaping up, it can become ulcerated and look like or it can become a combination of the two. So that's what can happen locally.

Then in addition those cells can break loose from where they are and get into the bloodstream and go all the over body, but more commonly, more commonly, let's say that this is one of the tongue. Here is the tongue, and you have got a cancer on it. After it invades into the tongue or at the same time or even before, cells can break loose and get into what is called the lymphatics.

Now, the lymphatics are tiny channels in your body that when the blood circulates, some of the fluid in the blood leaks out into the tissue and doesn't go back to the heart through the blood vessels, but rather gets into what's called little lymphatic channels and goes back and eventually gets into the vein through these lymphatic channels.

And those channels drain through what you and I usually call kernels. Those are the little lymph nodes. When you get a sore throat, you get a knot in your throat. That is a kernel or lymph node. So lymphatic channels drain through lymph nodes.

So some fix breaks through a cancer, and gets into the lymphatic channel. They can come down here to a lymph node and get hung up in a lymph node because it acts like a filter, and then they can develop a secondary cancer in the lymph node, and the

primary cancer is up here.

So the cancer that develops grows locally in the tongue, and in half of the patients or something like that cells break loose and go to the lymph nodes.

Q. Thank you, Doctor. Doctor Westbrook, do you have an opinion as to whether snuff is a cause of oral cancer?

A. Oh, I don't think there's any question about that. I think that based on my experience --

Q. That was my next question, sir.

A. Based on my experience, you know, I see certain lesions that either I can walk in or I can take one of my other associates and have them walk in and look at this lesion, and they will say, "That patient dips snuff," and they will be right 90 percent of the time.

From the literature I think you know there is plenty of evidence in the literature that snuff causes cancer. The phrase "snuff dipper's carcinoma" is all through the literature. From a scientific standpoint, basedly, you know, I don't try to read all the articles in the literature, but I depend upon groups of people that come together and review the literature and issue official opinions. And there

have been two major opinions issued on this problem within the last year or two.

Q. What are those, Doctor?

A. The International Agency for the Research on Cancer, the IARC, has issued a large monograph in which they say basically that snuff causes oral cancer. Then there was a consensus panel held in Washington this year, sponsored by the National Cancer Institute, and the conclusion was there that the evidence is very strong that snuff causes oral cancer.

So when you get a group of scientists together and they analyze everything that is available to them and they come out with a very firm position, then I'm certainly not going to argue with them.

Q. Thank you, Doctor. Let me move you along now to something that is of particular interest in this courtroom, and that is Sean Marsee. Have you had the opportunity to review the medical records of Marvin Sean Marsee?

A. I have reviewed his record.

Q. Did that include his pediatric records?

A. It included a summary of the visits that he had made to a physician all his life, I guess.

Q. After having done that, Doctor Westbrook, do you have an opinion as to what caused Sean Marsee's oral cancer?

A. In my opinion Sean Marsee's oral cancer was caused by dipping snuff.

Q. And on what do you base that opinion, sir?

A. Well, I start out with the position that it is pretty clearly demonstrated that snuff causes oral cancer. I don't think there is going to be any real question about that. Then we have a young man that dipped snuff for six or seven years in a very heavy fashion. He develops an oral cancer close to where the snuff was held. I see no other explanation.

I think you would have to really -- it would take a heap of faith to try to find another cause for that cancer. You would really have to hunt around to try to explain it any other way, because when you got a known etiologic agent, you have got known exposure and you have got a squamous cell carcinoma that develops in that area, there's no reason to look for another explanation.

Q. Now, Doctor, are you aware that there are some people who do develop mouth cancer without the use of tobacco?

A. Certainly.

Q. Did you take this into account in reaching your decision as to what you felt was the cause of Sean Marsee's cancer?

A. Yes, I took that into account, but when you have an obvious etiological agent, you know, you don't start saying, "Well, it is unexplainable." For example, you know, if you took 15-year-old boys that just dropped dead, the most common cause would be that their heart has an arrhythmia for some reason. But if you were sitting in your home and there was a thunderstorm going on and a child walked across the field and you saw him struck by lightning, you would make the assumption that the lightning killed him rather than that he had heart disease and just had an arrhythmia.

So the same thing is true here. When you got an obvious etiological agent, I don't see any reason to go fishing.

Q. Doctor Westbrook, have you had occasion to talk with Doctor Carl Hook?

A. Yes, ma'am.

Q. About Sean Marsee?

A. Yes, ma'am.

Q. Do you remember approximately when that conversation took place?

A. Time is not one of my better areas. I think it was three or four months ago.

Q. Are you aware of the treatment that was rendered to Sean --

A. Yes, ma'am.

Q. -- by Doctor Hook?

A. Yes, ma'am.

Q. Have you had some charts prepared under your supervision that show the progress of Sean's disease?

A. I have drawings that were made based on the descriptions from the medical records and the photographs that were made by Doctor Hook.

Q. And are these fair and accurate representations --

A. Yes, ma'am.

Q. -- of what those records reflect?

Doctor, let me hand you what are Plaintiff's Exhibits 34-a through e, and I think they are in reverse order.

A. We can take care of that.

Q. All right.

A. We will start at the bottom and work up. That should do it, shouldn't it?

Q. Yes, sir.

MR. JENNINGS: Before they show them to the

jury, I would like the opportunity to make a record.

MS. DESCHAMPS-BRALY: I'm sorry, Mr. Jennings. Of course.

THE COURT: Do you want to ask further questions?

MR. JENNINGS: I wonder, do you have photographs of the charts that --

MS. DESCHAMPS-BRALY: I do not.

MR. BRALY: They were furnished.

MS. DESCHAMPS-BRALY: They have been furnished to you previously.

THE COURT: Come on up.

(The following proceedings were had AT THE SIDE BAR.)

MS. DESCHAMPS-BRALY: At the time that we exchanged copies and so forth of the exhibits, they received photographs of these charts, but I don't have any pictures of them with me today.

THE COURT: Okay.

MR. JENNINGS: Of course, we made objections to those at the time that they were listed.

MS. DESCHAMPS-BRALY: Right.

THE COURT: What is your objection?

MR. JENNINGS: If the Court please, I need to see specific charts in order to make specific

objections.

MR. JENNINGS: If the Court please, we object to that chart because it is somebody's conception of what happens with regard to the tobacco, and it is going to be taken by the jury as showing what in fact did happen.

MS. DESCHAMPS-BRALY: Your Honor, his testimony is -- I'm sorry, Mr. Jennings.

MR. FINNEGAN: Mrs. Marsee testified he put the snuff up here, Your Honor. I mean she pointed to that area.

THE COURT: I am not even sure what I am looking at.

MS. DESCHAMPS-BRALY: Now, this is the tongue right here. This is a retractor, pulling the cheek back like this so you can see the teeth.

MR. FINNEGAN: Is this the front of the mouth, Mrs. Braly.

MS. DESCHAMPS-BRALY: That is the front of the mouth.

MR. FINNEGAN: This exhibit shows that he had it to the side. There is no testimony --

MR. FINNEGAN: There is no testimony by anybody that saw him dipping -- that differs from the fact that it was up in the front of the mouth,

from the middle to the side.

MS. DESCHAMPS-BRALY: The testimony, Doctor Carl Hook has testified where Sean told him that he put the snuff in connection with his treatment. This gentleman is going to testify only that this represents what he has ascertained from the medical records.

THE COURT: Isn't that what Doctor Hook said?

MR. FINNEGAN: Doctor Hook testified that he put it in the right side and this is the right side and the only person that -- he testified that Sean never showed him exactly where. He only told him that he put it on the right side. Mrs. Marsee, the plaintiff in this lawsuit, has testified and pointed to the part from here to here (indicating) at least four times.

MR. JENNINGS: If the Court please, the portion of the exhibit that I particularly object to is showing the stain on the side of the tongue. There is absolutely no testimony that there was ever such a condition at the time, and that is an effort by use of the exhibit to try to convince the jury that something happened about which there is no evidence.

MS. DESCHAMPS-BRALY: Your Honor, we have had one witness who testifies that you can't dip snuff without getting it on your tongue. Doctor Westbrook is going to testify to the very same thing, and the fact that they disagree doesn't make it not relevant.

THE COURT: What is this supposed to reflect?

MR. JENNINGS: That's what I want to know.

MS. DESCHAMPS-BRALY: That is supposed to reflect the tobacco juice that gets on the tongue.

MR. FINNEGAN: There is no evidence, Your Honor, that Sean Marsee had tobacco juice on the side of his tongue.

THE COURT: Is there any doubt that he would?

MR. FINNEGAN: Yes, there is, Your Honor, yes, there is, of course.

MR. JENNINGS: That indicates that he had tobacco right on side of his tongue and no place else, Your Honor. That's the whole point. It is misleading to the jury.

THE COURT: Let me see what else you have got.

MR. JENNINGS: You don't mind covering that,

do you, George?

MS. DESCHAMPS-BRALY: Your Honor, this illustration represents the leukoplakia as found by Doctor Balz on January 11, 1983.

MR. JENNINGS: If the Court please, as far as I know, Doctor Balz was the only one who saw leukoplakia. If he describes a condition such as is shown there, then this would be admissible.

THE COURT: All right. I think -- I have read his deposition and --

MS. DESCHAMPS-BRALY: His medical records say --

THE COURT: That it did?

MR. JENNINGS: If the Court please, what I mean, if he will say that this is an accurate representation of what he saw, then I think it is entirely admissible.

THE COURT: This witness didn't see it.

MR. BRALY: He didn't --

MS. DESCHAMPS-BRALY: No.

MR. BRALY: -- rely on the medical records to interpret exhibits, Your Honor.

THE COURT: Do you have an objection to this exhibit or not?

MR. JENNINGS: I have an objection unless

Doctor Balz says or somebody who knows says that it accurately portrays the condition he saw.

MR. FINNEGAN: Your Honor, the lateral border of the tongue, that is from the back to the front, and they have chosen to put it in a particular spot. And only Doctor Balz can testify as to where it was, whether it was back there or whether it was here (indicating).

THE COURT: What's next?

MS. DESCHAMPS-BRALY: This illustrates the ulcer on the tongue as taken from Carl Hook's photograph.

MR. JENNINGS: I have no objection to that.

THE COURT: All right.

MS. DESCHAMPS-BRALY: Shall we go through the other two then?

THE COURT: (Nodding yes).

MS. DESCHAMPS-BRALY: This one represents the portion of the tongue that was removed by Carl Hook.

MR. JENNINGS: I have no objection to that.

THE COURT: That would be D, C and D, no objection.

THE CLERK: What is the first number?

MS. DESCHAMPS-BRALY: 34-a through e.

This is after -- from the Carl Hook photographs he sewed up what he took out.

MR. JENNINGS: No objection.

MR. FINNEGAN: No objection to that.

THE COURT: Let's go back to the first two.

MR. FINNEGAN: Your Honor, may it please the Court, Doctor Hook's medical records indicate that the boy's mouth was clean, aside from the cancer on the tongue. This would suggest that there is tobacco juice on the boy's tongue, and there is no evidence that Sean Marsee had that kind of situation.

MS. DESCHAMPS-BRALY: I don't have that -- By "clean mouth," he was referring to the mouth that he had no gum recession.

THE COURT: How are you going to use this?

MR. BRALY: A natural progression from the contact with the carcinogen to the premalignant leukoplakia that that was reported on the right lateral portion of the gingiva by Doctor Balz in Sean Marsee's medical records to the ulcerated lesion on the right lateral border of the tongue that's in Doctor Hook's medical records and of which we have a photograph.

MR. FINNEGAN: Your Honor, they have created an impression here of putting the snuff in a place

different from where Mrs. Marsee testified that he held the snuff. They are showing tobacco, some kind of a stain on the tongue, and there is no evidence that Sean Marsee had that kind of a stain. This is an impactful picture. This is prejudicial, and it is not supported by the evidence in this case, Your Honor.

MS. DESCHAMPS-BRALY: It may be, as you say, Mr. Finnegan that there is a conflict of testimony, I don't believe there is, but you are entitled to your opinion, that is for the jury to decide.

MR. FINNEGAN: There is no testimony by anyone who saw Sean put it there or who examined him and saw it there. The testimony of Doctor Hook was that it was on the right side. That's as far as he went.

THE COURT: That doesn't particularly --

MS. DESCHAMP-BRALY: He said next to the molar.

THE COURT: That doesn't particularly disturb me. This did (indicating). I am going to sustain the objection to this exhibit, because I just don't think there is any evidence of a discoloration or stain.

MR. BRALY: It is not discoloration; it is

just representing the natural tobacco juice.

THE COURT: I understand. Sustain the objection.

MR. BRALY: We want to make an offer of proof.

THE COURT: All right.

MR. BRALY: Comes now the plaintiff and with Exhibit 34-a, we will substitute a photographic copy for the record of a normal size, we move the offering of the exhibit for the purpose of showing the natural progression of the disease. The exhibit is supported by the testimony of John Martin, who was just on the witness stand, who testified that the tobacco just gets all over your mouth and it would be supported by the witness who would testify that this is typical of these that he sees, fairly represents it and would be useful and helpful for the jury if nothing else as a demonstrative exhibit.

MR. JENNINGS: Now, if the Court please, the only basis of my objection to this exhibit is that I do not know whether or not it accurately shows what Doctor Balz saw. If Doctor Balz says it shows accurately what he saw, I will withdraw my objection to it, but I do not know that at the moment and I don't think how any other witness can tell you what

Doctor Balz saw.

THE COURT: Do we know, do the medical records indicate where the leukoplakia was?

MR. FINNEGAN: Not except on --

THE COURT: Let's don't all talk at one time.

MR. FINNEGAN: It indicates that it is on the right lateral tongue, but it doesn't tell how big it is or where on the right lateral tongue. I mean are you talking about something that long (indicating), maybe longer, and the medical records indicate that it was here, indicate the size of it. Our only objection is --

THE COURT: I certainly think that can be handled on cross-examination. I am going to overrule the objection to that, so is that B --

MR. BRALY: Yes.

THE COURT: 34-B-C,-D and-E will all be exited. 34-A the objection will be sustained (The following proceedings were had, IN OPEN COURT.)

THE COURT: Plaintiffs 34-B,-C,-D,and E will be admitted.

Q. (BY MS. DESCHAMPS-BRALY) Doctor Westbrook, on what has been marked as Plaintiff's Exhibit 34-A. Would you please put that up there on the chart?

A. This is 34-B; 34-A was the one --
Q. 34-B?
A. -- disallowed.
Q. 34-B. Would you please put that up there on the chart.
A. (Witness complies).
Q. Doctor Westbrook, I believe I handed you some pictures that have already been admitted into evidence as exhibits. Do you have those with you?
A. There are some photographs laying here. Are these the ones you are talking about?
Q. Yes, sir.
A. Yes.
Q. Have you seen those photographs before?
A. Yes, ma'am.
Q. When did you have the occasion to see those?
A. That's been probably a year ago.
Q. And how did they come into your possession?
A. I guess that you or Mr. Braly mailed them to me, and I looked at them and then made xerox copies and returned them to you.
Q. Doctor, do you have any knowledge whether Sean Marsee ever had a leukoplakia on his tongue?
A. From the medical record, when he went to the Little Dixie Clinic, I guess in January of '83, he

was told that he had leukoplakia and it is described in the medical record.

Q. Now, Doctor, is that illustration up there on the board a showing of what a leukoplakia would look like?

A. Leukoplakia just means white patch. That's what the word means. And this is to demonstrate a white patch on the tongue. Leukoplakia can either be flat or it can be heaped up a little bit, but that is to demonstrate simply a white patch on the tongue.

Q. Now, Doctor, you do not know precisely where the leukoplakia was on Sean's tongue, do you?

A. I did not see the patient, all I know is from the medical record.

Q. All right. And what did the medical record state was the location of the leukoplakia?

A. As I remember, it was on the lateral edge of the right side of his tongue, about half way back.

Q. Could you explain to us exactly what the portion of the tongue is that is shown in that illustration?

A. The tongue when you look in the mouth, the tongue that you see is called the oral tongue. And basically everything you see here is the oral tongue. This would be the tip. This would be the

line down the top of the tongue, and this would be the edge out towards the cheek. So the leukoplakia is located, the best I can tell from the description, on the edge of the tongue next to the right jawbone and the right cheek.

Q. Doctor Westbrook, what is the significance of having a leukoplakia?

A. Leukoplakia is felt to be a reaction to some type of irritant, because any -- you know, a similar description might be a callus that you get on your finger, if you use it all the time in doing something. A callus you get on your foot. So really leukoplakia is a reaction of the mucosa to a chronic irritation. It is a white patch and it's felt that it is a premalignant lesion. And no one really knows what percentage of these patients go on and get cancer. The literature would say somewhere in the range of 5 percent.

Q. And Doctor Westbrook, I understand from what you have said previously that you have seen a lot of snuff users in your practice, is that correct?

A. Yes, ma'am.

Q. Do you know of your own knowledge whether a person who dips snuff would get snuff and/or tobacco juice on their tongue?

A. Well, anything that is in the mouth gets onto the tongue. For example, the saliva that we have in our mouth. Most of that saliva comes from these big glands right here (indicating) and it empties in right here, but it always spills over into the floor of the mouth and then we either swallow it or spit it out. The saliva doesn't stay out of it here; it either goes down or comes out.

So anything that is located out here naturally gravitates to the lowest place in the mouth, which is the floor of the mouth, and the tongue forms one side of that and the teeth form the other side of it. It is kind after a gutter, cesspool.

Q. Since you have been practicing, have you seen any change in the number of leukoplakias that come through your office?

A. We have not seen any real change in the number of older patients with leukoplakia, but we are seeing an increasing number of young people with leukoplakia.

This week one of my associates saw two young women that were referred to her from a pediatrician, both of these young ladies had had cancer of some sort, treated by this pediatric oncologist. They had

started dipping snuff. They had developed terrible leukoplakia. She sent them to one of my associates saying they have got leukoplakia and I don't want them getting another cancer after I have cured them of one.

Q. Doctor, in this particular illustration that is on the board and in the case of Sean Marsee, what significance do you attach to a leukoplakia on the tongue of an 18 year old boy has been a snuff dipper for approximately six years?

A. Oh, I think his using the snuff, I think there has been a recent article published in CA, a little publication by the American Cancer Society where they studied teenagers that dipped snuff and they found mucosal changes in about 60 percent of those people that dipped snuff. Now, by mucosal changes, some of them were leukoplakia, some of them turned red. Everyone does not respond to anything the same way. One patient will respond to a chronic irritant by getting a red spot. Another one will get a white spot and some don't get anything.

Q. Sir, could I have you take what is now marked as Plaintiff's Exhibit C, I believe, and put that up on the board.

A. (Witness complies).

Q. Could you tell us, Doctor Westbrook what that illustration is intended to show?

A. That is to show the lesion as Doctor Hook first saw it, I guess, in -- was it May or April, April, when he first saw it.

Q. Yes, sir.

A. And it is based on a photograph that he took at that time (indicating). So this shows a change in the area and he described a change in that instead of seeing a white patch, then he saw an ulcerated area with reaction around it that looked suspicious to him.

Q. You do not know for sure, of course, that the ulcer is in precisely the same place that Doctor Balz reported the leukoplakia to be; is that correct?

A. No, but as far as I can tell from the record, the leukoplakia was gone and leukoplakia usually doesn't go away if the stimulus is still there. So I assume that the ulcer developed in the side of the leukoplakia, but I don't know that.

Q. Sir, what significance do you attach to an ulcer on the side of a tongue of an 18 year old young man who has been a snuff dipper and who has had a leukoplakia in approximately the same location?

A. I think one would have been to be very

suspicious that this is a squamous cell carcinoma.

Q. Doctor Westbrook, let me ask you at this time whether you have an opinion as to the treatment that Doctor Carl Hook rendered to Sean Marsee. Was that proper medical treatment, in your opinion?

A. I think the next two exhibits show that treatment. Would you like to go through them first and then have me comment on the treatment?

Q. Well, if you would answer the question, and we will go ahead and do it, if that would be all right with you?

A. All right. The treatment that he did was in my opinion very satisfactory and very acceptable treatment.

Q. Would you now take what has been marked as Plaintiff's Exhibit C and put that up on the chart?

A. We are to D. B action C action D.

Q. D, you are right?

A. We lost A.

Q. Doctor, don't go back in the chair yet. Could you please tell us what that illustration is intended to show?

A. Okay. This is the mouth. It is pulled open. This is the tongue. This is the mid portion of the tongue and this is the tip of the tongue. And

what this shows is what's called a partial glossectomy or a removal of a portion of the tongue. The mucosa has been cut. The tongue is the most muscular organ in the body. So everything that you see underneath there is muscle. So this is where a small portion of the tongue has been taken off.

Q. Doctor Westbrook, in that illustration it shows that the tip of the tongue has been preserved.

A. That's correct.

Q. Correct?

A. (Nodding yes).

Q. Can you tell me whether it is important to attempt to preserve the tip of the tongue and if so why?

A. Speech is better if you preserve the tip of the tongue. Swallowing is better if you preserve the tip of the tongue. You can get by without it, but, in general, the more tongue you have the better, up to extreme positions, I guess.

Q. Thank you, sir. Would you take the next exhibit and I think I have got it straight this time, 34-E.

And can you tell us, please, what that illustrates?

A. That simply shows the way you repair the

tongue when you do a partial glossectomy. It is a very simple repair. You just simply pull the two edges together and suture them up. The tongue heals beautifully, it's got a tremendous blood supply.

Q. Thank you, Doctor, I will let you sit back down now.

Doctor Westbrook, would you have treated Sean Marsee any differently if he had been your patient?

A. No, ma'am.

Q. What about the 41-day delay between the time that he first saw Carl Hook and the date of the operation?

A. Well, in general, when you see someone that has a suspicious lesion that you think is cancer, you would like to go ahead and treat it as soon as possible. However, when you start to treat a cancer, you have to take into account the patient that it is in, what their wishes and desires are, and what harm would be done by some delay. I know of no evidence anywhere in the literature that a six weeks delay alters the outcome in head and neck cancer. In many major centers, if you try to refer a patient to major head and neck cancer center, such as Memorial in New York, it may be three weeks before you can even get

an appointment with one of the doctors there, then once he sees you, it may be another couple of weeks before you get on the schedule. So I don't think that the six weeks delay is of any significance.

Q. All right. Doctor Westbrook, let me move on and ask you a general question. Do the vast majority of people who use snuff get oral cancer?

A. No.

Q. Do some people who don't use tobacco get oral cancer?

A. Yes.

Q. Does everybody who is exposed to hepatitis virus develop hepatitis?

A. No.

Q. Doctor, everybody who gets hepatitis gets it from the hepatitis virus?

A. No. There are other causes of hepatitis.

Q. Doctor Westbrook, are there young people who do not use tobacco who get oral cancer?

A. Yes.

Q. Is cancer of the mouth in a young person any different a disease than cancer of the mouth in an older individual?

A. It is no different in its appearance, in its appearance under the' microscope, in its behavior or

the way we treat it. So in general I'd say that there is no difference in the disease.

Q. Doctor Westbrook, speaking from your experience as a surgical oncologist, do you believe that Sean Marsee would have developed the tongue cancer that ultimately killed him if he had not dipped snuff?

A. I certainly do not.

Q. And my final question. Do you know of any worse way to die than head and neck cancer?

MR. JENNINGS: If the Court please, I object to that.

THE COURT: Overruled.

A. I think that terminal head and neck cancer is probably one of the worst ways that you can die. You wind up unable to eat, unable to talk, unable to breathe. You smell foul and people cannot go in the room with you, but yet your brain is still working and you understand everything that is going on about it. Among cancer patients probably the suicide rate is probably higher among head and neck cancer patients than any other group of cancer patients.

MS. DESCHAMPS-BRALY: I have no further questions.

THE COURT: Ladies and gentlemen, we will

take our noon recess. At this time, we will recess until 1:30, remembering my usually admonitions to you you will be excused until 1:30 and everyone remain seated until the jury exits until 1:30.

Court will be in recess.